

**From:** [Chip Humphrey](#)  
**To:** [Jim McKenna](#); [Kelly Madalinski](#)  
**Cc:** [Barbara Smith](#); [Alanna Conley](#)  
**Subject:** Fw: Confined Disposal FacilityPresentation -Questions from CAG member Jackie Calder  
**Date:** 09/28/2012 01:40 PM

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Jim & Kelly

Here are the questions that that I mentioned on our recent call that came in from Jackie Caulder just before the last CAG meeting.

Chip

----- Forwarded by Chip Humphrey/R10/USEPA/US on 09/25/2012 04:56 PM -----

From: Jackie Calder (b) (6)  
To: Chip Humphrey/R10/USEPA/US@EPA  
Date: 09/12/2012 12:35 PM  
Subject: Confined Disposal FacilityPresentation tonight--Questions to prepare you

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Hi

You will be able to tell that I have worked on and hoped for asking you questions regarding the CDF for a long time. If you do not have time or are not comfortable answering them tonight perhaps you could email me later.

Thanks for your efforts and wherewithal in doing this. If anyone from Anchor or anyone from LWG will be assisting you please feel free to forward the questions to them.

Sincerely,

Jackie Calder  
[Portland Harbor Community Advisory Group](#)

## [CDF](#)—Questions from Portland Harbor Community Advisory Group—September 12, 2012

While we will assume (for discussions sake) that the CDF is the definite plan for the EPA, I would like to explore information pro and con to its advantages and disadvantages.

Simply, what in your view are the advantages and disadvantages of a CDF in the Portland Harbor Superfund's particular situation?

- a. Will other PRP's or entities be able to add to the CDF now or in the future?

Just to verify:

1. COC's of approximately 940, 000 lbs?
2. Cap on top when completed?
3. No liner or dikes?
4. What concentration will ultimately be placed in the CDF
5. After created and filled initially, can more and heavier concentrated materials be placed in the CDF
6. Wastes from other sites?
7. Volume produced from contaminated dredging operations is notoriously unpredictable.
8. Doesn't near-shore disposal carries greater environmental risks than other disposal or treatment options, including
  - a. cap disturbance,
  - b. seismic disturbance,
  - c. potential infiltration by boring organisms, and virtually
  - d. As proposed, no potential for future treatment of disposed wastes.
9. Peter's notes:

46. **Section 7.4** discusses the selection of upland disposal options and states that *The total number of in-water CDFs/CAD was generally minimized, such that if a larger CDF/CAD could handle the capacity of multiple smaller ones, then the larger CDF/CAD was selected.*

Sediments throughout the harbor contain different predominant contaminants. r  
**Why were not smaller CDFs be considered..**

10. Section 1.3.1 states, "As with the Swan Island Lagoon CAD (described in Section 2.2.5), the concept for the Swan Island Lagoon CDF is subject to change." If the concept changes, what will be the protocol for establishing the changes? Will there be opportunities for public input?

11.

**Appendix Jb** (Evaluation of Potential Water Quality Impacts from In-Water Disposal Alternatives) This appendix evaluates potential water quality impacts associated with the construction and long-term use of in-water disposal technologies. Models, parameters, and hypothetical characteristics of the Terminal 4 and Swan Island Lagoon CDFs are discussed. The appendix states that modeling results suggest that CDF construction and long-term use will be protective of human health and the environment.

12.

**Section 1.0 states that** "the Arkema CDF preliminary design option has some simplifying characteristics," and was therefore not discussed further in this section.

**Will the Arkema CDF undergo a comparable analysis, as it is included as undergo a comparable analysis, as it is included as a potential disposal option in the FS?**

13.

**Many of assumed characteristics described here could be modified or refined in remedial design. If these disposal options are changed, will there be opportunity for the public to comment on these changes?**

14.

**Section 2.2 It says during berm construction "water quality would likely occur." Will the water quality monitoring occur or not? Will air quality monitoring occur?**

**15. Section 2.2 says that "imported materials" will be used in berm construction? What are the standards for those materials?**

**16. "If a CDF overflow during filling cannot be avoided" What assurances do we have that water quality criteria will be examined and corrected if need be?**

**17. Section 3.0 In the remedial design stage is when you will address seismic hazards, such as liquefaction, lateral spreading, volumetric settlement. "When will we be able to know the final plan for the CDF and will the public be able to comment?**

**18. Do you think that it means the CDF will withstand a 9.0 Magnitude as in Cascadia?**

**19. Has the CDF been redesigned since the Golder Report pointed out some potential flaws in location of the CDF?**

**20. Will the slouching and slumping of the CDF during an earthquake that Anchor talked about in the August 2011 PHCAG meeting not be major enough to affect the communities downstream such as: Sauvie Island, Scappoose, St Helens, Warrenton, Rainier?**

**21. What contaminants will bind with the soil?**

**22. How will PoP be able to tell what is put in the CDF (testing every 100 cubic yards)?**

**23. Sauvie Island Well Water and groundwater concerns. CAG has continually asked for information about this possibility, however, no information has been provided.**

**24. Sturgeon concerns Approx. 10,000 fish winter in a hole in front of T4 Physical disruption of wintering habitat from construction. Possible contamination from CDF of food base, such as clams. Already signs of reduced catch and physical deformities**

25. Evaporation concerns
  26. Uncovered, wet contaminated dredge material will attract birds of prey
  27. Possible buildup concerns with contamination accumulating over time
28. Air deposition concerns
29. Concentration and Mobility
30. Assurances of non-mobility (earthquake or other catalytic force)
31. What level is low enough to be effectively contained by CDF (others near 1ppm)
32. A PoP engineer informed CAG that 14ft of sediment would be removed in order to build the berm of the CDF on "solid sand."
33. **Section IV.3.iv On-Site Disposal Facilities** Long-term monitoring should be required for all on-site disposal facilities, including in-water Confined Aquatic Disposal (CAD) and on-shore Confined Disposal Facilities (CDF). Institutional controls and/or environmental restrictions may be required components of any on-site disposal remedy. See Section IV.5 for these considerations. The long-term monitoring considerations applicable to caps also apply to on-site disposal facilities (see Section IV.3.iii).
34. **Section IV.3.iv.a Confined Aquatic Disposal** Long-term CAD monitoring should include measuring cap thickness and contamination consolidation. Depending on the density of the contaminated material placed into the CAD (i.e., how much bulking has already occurred), a cap is generally not placed until the contaminated material has had a chance to consolidate. The uncapped material is monitored to determine the appropriate time to place a cap. Placing cap material on unconsolidated contaminated sediment could cause the contaminated material to mix with the cap, causing the cap to be less effective. Monitoring for this mixing effect is important soon after the cap is placed to determine if additional cap material will be required to meet remedial

goals. Surface water monitoring for sediment contaminants can be used to determine whether there is a release of contaminants while the cap and contaminated sediments are consolidating. If the cap is designed to be higher than the original surface (i.e. depth of water is less after the CDF construction), then the monitoring can be similar to a capping remedy as described in Section IV.3.iii. For these types of caps, monitoring material lost from the cap and contaminant migration are important. If the top of the CAD cap is below the surrounding area (such as, placed in a navigational channel), then the loss of cap material should be less of a concern, and the cap should be monitored primarily for contaminant migration.

**Section IV.3.iv.b Confined Disposal Facility** Long-term CDF monitoring should include groundwater monitoring to determine the extent of any contaminant release. Groundwater monitoring should be more frequent while the contaminated sediments are consolidating since this is when the greatest release may occur. Once the sediments consolidate, less sampling should be needed. Any increase in groundwater contaminant concentrations once the sediments have consolidated could **indicate that the CDF has failed and is not adequately containing the contamination.**

**CDFs should be inspected regularly to ensure that their structure remains sound. If the CDF is made from steel or other types of metals, the corrosion rates of those metals should be monitored. If the CDF has a vertical face and is in contact with water, the water line should be inspected, since that is where the most wear might occur.**

**35. Any CDF that is used to dock vessels should have its face inspected for potential damage. If a CDF is made from gravel and stones (i.e., a bermed facility), it should be checked for any consolidation, loss, or movement of the gravel and stones. CDFs should be inspected after any major weather event, such as a hurricane or tornado. If a CDF is damaged, repairs should be made as soon as possible to prevent/limit contamination releases.**

36. Will the strength of the flow of the river have an effect compared to other CDF's?

37. Do you have other examples of river CDF's that withheld during actual performance?

38. Will the tidal influence have an effect compared to other CDF's? Do you have other site examples where the CDF has held up during actual performance?

39. Will there be a local sponsor for the CDF? Who is it? The Port, the City or the State under the Dept. of State Lands ?
40. Will the local sponsor was also required to provide 25% of the funds for the construction of the CDF.
41. Will this local cost be shared?
42. Will the area be in compliance with an approved water quality program.
43. Will it be waived ?
44. Who will receive title to the CDF after it is filled and be responsible for its maintenance?
45. Any plans to sort and clean like Erie Pier sediment cleaning activity?
46. Is the dredging and relocation of contaminants the only reason for the CDF or does the dredging benefit the Port and other entities to enhance their ability to accommodate deep-draft navigation and offset their costs to improve waterborne commerce?
47. Is the purpose of CDF and its preparations strictly for environmental pollution?
- 48. Is this still the first time in the Western United States that such a facility would be constructed in a riverine environment?**